10699210 - GAU: 2832

PTO/SB/21 (08-03)

Not Assigned 1069921

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Application Number

10	ANSMITTA	L	Filing Date		31 October 2003
FEB 2 7 2004 B FORM			First Named Inve	entor	BINTORO, Jemmy
(to be used for	ti correspondence after	initial filing)	Group Art Unit		Not Assigned
Total Number of			Examiner Name		Not Assigned
Total Number of	of Pages in This Submiss	sion	Attorney Docket	Number	GTRC132
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	Disclosure Statement				U.S. Patent Cited References, and Return Postcard
Certified Copy of Priority Document(s)  Response to Missing Parts/ Incomplete Application  Response to Missing Parts under 37 CFR 1.52 or					
1.53	SIGNATU	RE OF APPLI	ICANT, ATTOR	NEY, OR	AGENT
Firm or Ryan A. Schneider, Reg. No. 45. Individual name  Signature  Date  23 February 2004					
Date					
I hereby certify the first class mail in a 23 February 2004	at this correspondence i	is being deposited	TRANSMISSIC d with the United S r for Patents, P.O. B	tates Postal	Service with sufficient postage as lexandria, VA 22313-1450 on this date:
Typed or printed n	ame Pamela J. Gu	thardt			
Signature	Pamela	1 Grak	7	Date	23 February 2004
his collection of informa	ation is required by 37 CFR		is required to obtain or	retain a benef	fit by the public which is to file (and by the

USPTO to process) an application. Confidentiality is governed by 36 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Receipt date: 02/27/2004 10699210 - GAU: 2832

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	)
BINTORO, Jemmy et al FEB 2 7 2004	) Group Art Unit.: Not Assigned
Serial Number: Not Assigned	) Examiner: Not Assigned
Filed: 31 October 2003	)
For: SINGLE SUBSTRATE ELECTROMAGNETIC ACTUATOR	) )

## TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT (IDS) AND COPY OF IDS CITATION

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 Atlanta, GA 30308-2216

Sir:

In accordance with the continuing duty under 37 C.F.R. §1.56 to disclose to the United States Patent and Trademark Office any information that may be material to patentability of the above-identified invention, Applicant hereby submits an *Information Disclosure Statement* listing references presently known to Applicant relating to the above-identified application. Copies of the non-U.S. patent references are also included. The submission of this information shall not be deemed an admission that this information is necessarily material to the patentability of the above-identified application.

No fee is believed to be payable in connection with the filing of this *Information Disclosure Statement* as it is submitted prior to a *First Office Action*. Nonetheless, if a fee is required for entrance of this art, authorization to charge such fees due to deposit account 20-1507 is hereby given.

Ryan A. Schneider Reg No. 45,083

Troutman Sanders LLP Bank of America Plaza 600 Peachtree Street, N.E., Suite 5200 Atlanta, Georgia 30308-2216

Phone: 404.885.2773 Fax: 404.962.6849

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Substitute for form 1/49 A /DTO	Complete If Known		
	Application Number	Not Assigned	
<b>E</b> INFORMATION DISCLOSURE	Filing Date	31 October 2003	
E INFORMATION DISCLOSURE STATEMENT BY APPLICANT	First Named Inventor	BINTORO, Jemmy	
13)	Group Art Unit	Not Assigned	
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Examiner Initials	Cite No. 1	U.S. Patent Docu Number Kind (ij'k	ment Code <sup>2</sup>	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		4,824,073		04/25/1989		
		4, 966,646		10/30/1990		
		5,058,957		10/22/1991		
		5,333,381		08/02/1994		
		6,328,279		12/11/2001		
		0172975	A1	09/18/2003		
		0054835	Al	05/09/2002		
		0100888	A1	08/01/2002		
		0139947	Al	10/03/2002		
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I	Examiner	/Bernard Rojas/	Date	09/17/2008
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Substitute for form 1449B/PTO	Complete If Known		
	Application Number	Not Assigned	
IP INFORMATION DISCLOSURE	Filing Date	31 October 2003	
STEREMENT BY APPLICANT	First Named Inventor	BINTORO, Jemmy	
as many sheets as necessary)	Group Art Unit	Not Assigned	
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		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number)s), publisher, city and/or county where published.	T <sup>2</sup>
		S. BOHM et al., A micromachined silicon valve driven by a miniature bi-stable electro-magnetic actuator, Sensors and Actuators 80 (2000) 77-83	: I
		YASUHIKO SHINOZAWA et al., A Proportional Microvalve Using a Bi-Stable Magnetic Actuator Jan. 1997 /BR/	
		MIRCEA CAPANU et al., Design, Fabrication, and Testing of a Bistable Electromagnetically Actuated Microvalve, Journal of Microelectromechanical Systems, Vol. 9, No. 2, June 2000	
		A. MECKES et al., Microfluidic system for the integration and cyclic opearation of gas sensors, Sensors and Actuators 76 (1999) 478-483	
•		HYOUNG J. CHO et al., A Bidirectional Magnetic Microactuator Using Electroplated Permanent Magnet Arrays, Journal of Microelectromechanical Systems, Vol. 11, No. 1, February 2002	
		T. LISEC et al., Thermally Driven Microvalve with Buckling Behavior for Pneumatic Applications, Sensors and Materials, Vol. 8, No. 5 (1996)	
_		EDWIN T. CARLEN et al., Surface Micromachined Paraffin-Actuated Microvalve, Journal of Microelectromechanical Systems, Vol. 11, No. 5, October 2002	
		I. CHAKRABORTY et al., MEMS micro-valve for space applications, Sensors and Actuators 83 (2000) 188-193	
		DAVID S. ROBERTS et al., A Piezoelectric Microvalve for Compact High-Frequency, High-Differential Pressure Hydraulic Micropumping Systems, Journal of Microelectromechanical Systems, Vol. 12, No. 1, February 2003	
		PH. DUBOIS et al., Electrostatically Actuated Gas Microvalve based on a Ta-Si-N Membrane  Jan. 2001 /BR/	
	ı	1	1

Examiner	/Bernard Roias/	Date	09/17/2008
Signature	/ Demard Hojas/	Considered	00/17/2000

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<sup>1</sup> Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO	Com	plete If Known
	Application Number	Not Assigned
ONFORMATION DISCLOSURE	Filing Date	31 October 2003
STATEMENT BY APPLICANT	First Named Inventor	BINTORO, Jemmy
(use as many sheets as necessary)	Group Art Unit	Not Assigned
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		M. KOHL et al., Development of stress-optimised shape memory microvalves, Sensors and Actuators 72 (1999) 243-250	
·	.=	J. HAJI-BABAEI et al., Integrable Active Microvalve with Surface Micromachined Curled-Up Actuator June 1997 /BR/	
		NELSIMAR VANDELLI et al., Development of a MEMS Microvalve Array for Fluid Flow Control, Journal of Microelectromechanical Systems, Vol. 7, No. 4, December 1998	
		LEVENT YOBAS et al., A Novel Bulk-Micromachined Electrostatic Microvalve with a Curved-Compliant Structure Applicable for a Pneumatic Tactile Display June 2001 /BR/	
	_	CHARLES GROSJEAN et al., A Practical Thermopneumatic Valve Jan. 1999 /BR/	
		W.K. SCHOMBURG et al., Design optimization of bistable microdiaphragm valves, Sensors and Actuators A 64 (1998) 259-264	
		COLLIN A. RICH et al., A High-Flow Thermopneumatic Microvalve With Improved Efficiency and Integrated State Sensing, Journal of Microelectromechanical Systems, Vol. 12, No. 2, April 2003	
		S. MESSNER et al., A Normally-Closed, Bimetallically Actuated 3-Way Microvalve for Pneumatic Applications Jan. 1998 /BR/	
		ANTONIO BALDI et al., A Hydrogel-Actuated Smart Microvalve with a Porous Diffusion Barrier Back-Plate for Active Flow Control Jan. 2002 /BR/	
		ROBIN H. LIU et al., Fabrication and Characterization of Hydrogel-Based Microvalves, Journal of Microelectromechanical Systems, Vol. 11, No. 1, February 2002	

Examiner	(0)	Date	09/17/2008
Signature	/Bernard Hojas/	Considered	09/17/2008

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		First Named Inventor	BIN		
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